



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/578,279	05/05/2006	Christophe Kefeder	FR030137 US1	1657
65913	7590	08/25/2009	EXAMINER	
NXP, B.V. NXP INTELLECTUAL PROPERTY & LICENSING M/S41-SJ 1109 MCKAY DRIVE SAN JOSE, CA 95131			KIM, CHONG R	
			ART UNIT	PAPER NUMBER
			2624	
			NOTIFICATION DATE	DELIVERY MODE
			08/25/2009	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No. 10/578,279	Applicant(s) KEFEDER ET AL.	
	Examiner CHARLES KIM	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/5/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed May 5, 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. A copy of the article entitled "Real-Time Video Mosaics Using Luminance Projection Correlation" by Nagasaka, et al., listed in the information disclosure statement is missing. Accordingly, this article has not been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Referring to claim 1, the phrase "where the or each calculated distribution" in lines 13-14 renders the claim indefinite because it is unclear what is being claimed. A similar rejection applies to claim 9.

Referring to claim 2, the phrase "several shifts" in line 7 renders the claim indefinite because it is unclear what the scope of "several" is.

Claims not mentioned specifically are dependent from indefinite antecedent claims.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claim(s) 1-7 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Federal Circuit precedent requires that a statutory “process” under 35 U.S.C. 101 must “(1) be tied to a particular machine or apparatus, or (2) transform a particular article into a different state or thing.”¹ This is called the “machine-or-transformation” test. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform a particular article to a different state or thing nor are positively tied to a particular machine or apparatus that performs the claimed method steps. Thus, the claim(s) do not embody statutory subject matter because they fail to satisfy the machine-or-transformation test.

4. Claim 8 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Data structures, such as a “computer program product,” that are not claimed as embodied in computer-readable media are considered functional descriptive material per se and are therefore, not statutory. A statutory product comprising functional descriptive material must include a positive recitation of a computer readable medium -- MPEP 2106.01.

¹ *In re Bilski*, 545 F.3d 943 (Fed. Cir. 2008).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-6, 8-10 are rejected under 35 U.S.C. 102(b) as being anticipated by the article entitled “2D-Object Tracking Based on Projection-Histograms” by Huwer et al. (“Huwer”).

Referring to claim 1 as best understood, Huwer discloses a method of identification, in a succession of acquired images each formed from a matrix of pixels to a first format, of a following sub-image (SA_{t+1}) extracted from a following acquired image corresponding to a prior sub-image extracted from a prior acquired image, said sub-images being formed from a matrix of pixels to a second format smaller than the first format, the method comprising the steps consisting of:

calculating, for the prior sub-image at least one distribution (histogram) of a characteristic quantity of each pixel for blocks forming a predefined partitioning of the sub-image [pp. 861-866, particularly section 4. Note that a histogram of a template is calculated.];

calculating the same distribution for at least two would-be sub-images of the second format extracted from the following acquired image [pp. 866-868, sections 4-5.1. Note that a histogram is calculated for a local search area that includes at least two would-be sub-images.];
and

Art Unit: 2624

determining the corresponding following sub-image from among the would-be sub-images, as the sub-image where the or each calculated distribution has the highest correlation with the same calculated distribution for the prior sub-image according to a predefined correlation law [p. 868, sections 5-5.1. Note that a best template match is determined based on a highest correlation between the histograms.].

Referring to claim 2, Huwer further discloses:

calculating an extended distribution for an extended range (search region S) of the following acquired image [p. 868];

calculating the correlations between the calculated distribution for the prior sub-image and a corresponding portion of the extended distribution for several shifts of the prior sub-image with respect to the following acquired image [p. 868]; and

determining the corresponding following sub-image as the sub-image of the following acquired image corresponding to the shift of the prior sub-image with respect to the following acquired image for which the calculated correlation between the distributions is the highest [p. 868].

Referring to claim 3, Huwer further discloses that the blocks forming a predefined partitioning of the sub-image for calculating at least one distribution are lines and/or columns of the sub-image [pp. 866-868].

Referring to claim 4, Huwer further discloses that said characteristic quantity of each pixel is a parameter chosen from the group consisting of luminance, blue chrominance, red chrominance, red component, green component and blue component [pp. 866-868].

Art Unit: 2624

Referring to claim 5, Huwer further discloses that the correlation law is defined as the inverse of the Euclidean distance separating two distributions [pp. 865-868. See equations 3-5 and 15-18.].

Referring to claim 6, see the rejection of at least claim 1 above. Huwer further discloses calculating any movement between the prior and following sub-images from the position of the prior and following sub-images in the prior and following acquired images [pp. 866-868. Note that the histogram matching and tracking techniques determine the movement between the prior and following sub-images.].

Referring to claims 8 and 9, see the rejection of at least claim 1 above. Huwer further discloses a device and computer program to perform the steps recited in step 1 above [p. 872, section 8].

Referring to claim 10, see the rejection of at least claim 2 above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Huwer and Applicants' admitted prior art (Admission).

Referring to claims 7 and 11, Huwer does not explicitly disclose the step of correcting the determined movement in order to take account of the effect of an intentional movement and to

Art Unit: 2624

eliminate the effect of an unintentional movement. However, this feature was well known in the art. For example, Admission discloses that a correction algorithm of this type was known per se [specification, p. 10, ll. 3-6].

Huwer and Admission are combinable because they are both concerned with object tracking methods. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify Huwer to include the correction method of Admission. The disclosure of Huwer and Admission teach each element recited in the claim. The only difference between the claimed invention and the prior art is the lack of an actual combination of the elements in a single prior art reference. One of ordinary skill and creativity however, could have easily incorporated Admission's correction technique in Huwer's object tracking method because such techniques were well known per se. Moreover, the combination would have yielded the predictable result of an object tracking technique that corrects the determined movement for intentional and unintentional movement. Therefore, it would have been obvious to combine Huwer with Admission to obtain the invention as specified in claims 7 and 11.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. Trajkovic, U.S. Patent No. 2002/0176001 discloses a similar object tracking method that uses histogram matching.

Art Unit: 2624

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Kim whose telephone number is 571-272-7421. The examiner can normally be reached on Mon thru Thurs 8:30am to 6pm and alternating Fri 9:30am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/CHARLES KIM/
Primary Patent Examiner
Art Unit 2624
charles.kim@uspto.gov

August 13, 2009